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NEW CENTRAL AMERICAN FROGS OF THE
GENUS *HYPOPACHUS*

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In the course of studies on the amphibian fauna of upper Central America, the frogs of the microhylid genus *Hypopachus* from that region in the reference collection of Field Museum have been re-examined. Some of these had been identified cursorily long before the appearance of Parker's comprehensive review of the Microhylidae.¹ With Parker's monograph at hand, obvious discrepancies in characteristics and distributions are evident. Our seven Guatemalan specimens represent three species and three zoological expeditions. The form most distinct from any known species was collected by C. M. Barber while on the Field Museum Guatemalan Expedition of 1906. Mr. Barber, who accompanied Edmund Heller in the Mexican and Guatemalan field work of the Museum in 1904, 1905, and 1906, will be remembered as the collector of *Oedipus rex*, the highland salamander of the Guatemalan plateau. The Museum owes many valued specimens of reptiles and amphibians to his interest in these creatures. Two specimens of a large smooth-skinned species were obtained by Leon L. Walters and myself in Honduras in our field work for the Marshall Field Central American Expedition of 1923. Topotypes of *Hypopachus inguinalis*, without which the other forms could scarcely have been defined, were obtained by my brother, the late F. J. W. Schmidt, and myself, while on the Mandel Guatemalan Expedition in 1933-34. The Museum is indebted to Mr. Albert A. Enzenbacher for the pencil drawings which illustrate the present paper.

Hypopachus barberi sp. nov.

Type from Tecpan, Sololá, Guatemala. No. 1812 Field Museum of Natural History. Adult female. Collected by C. M. Barber.

¹ H. W. Parker, A Monograph of the Frogs of the Family Microhylidae. British Museum (Natural History), London, pp. VIII+208, 67 figs., 1934.

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Diagnosis.—Metatarsal tubercles both present, both rounded; dorsum covered with rounded warts; snout not prominent; most closely allied to *Hypopachus inguinalis*, from which it is distinguished by the rough skin, relatively small head, and strong fold across the throat.

Description of type.—Body form of *Hypopachus*; snout little prominent, as long as the eye; canthus rostralis moderately distinct, the loreal region flat; interorbital space nearly twice as broad as upper eyelid; fingers free, the second exactly as long as the fourth; toes with a vestige of web, the third decidedly longer than the fifth; two prominent rounded metatarsal tubercles, the inner larger, neither with a cutting edge, subarticular tubercles well developed, two under the fourth toe.

Skin smooth below, warty above; a transverse fold crosses the head behind the eyes, connecting with an oblique fold from the posterior corner of the eye to beneath the arm; a strong fold across the throat joins the oblique folds above and behind the ricti.

Color uniform dull brown above except for a prominent ocellar spot above the thighs, which matches transverse black bars on the flexed tibial and metatarsal joints; a narrow light mid-dorsal line connecting with one on the posterior face of the hind limb on each side; under surfaces yellowish brown, mottled with dark brown, which is bolder on the posterior part of the belly; an oblique light stripe from the eye just in front of the oblique skin fold.

Measurements.—Length from snout to anus 36.6; snout to upper transverse fold 5.7; width of head at ricti 11.5; hind limb from anus 49; tibia 15.5; foot from metatarsal tubercles 17.4; arm 19.

Remarks.—This species is amply distinguished from all others in the genus *Hypopachus* by its warty back and the fold of skin across the throat. I take especial pleasure in naming it for my friend C. M. Barber, of Hot Springs, Arkansas. Mr. Barber made the first herpetological collections for Field Museum in Guatemala, and was still cordially remembered by Don Axel Pira at the Hacienda Santa Elena (above Tecpan, the type locality of the present species), when my brother and I visited Santa Elena nearly thirty years later, to be befriended in our turn.

***Hypopachus globulosus* sp. nov.**

Type from Lake Ticamaya, east of San Pedro Sula, Honduras. No. 4641 Field Museum of Natural History. Adult female. Collected April 16, 1923, by Karl P. Schmidt and Leon L. Walters.

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FIG. 1. *Hypopachus barberi*, type (left), $\times 1$; *H. globulosus*, type (center), $\times 1$; *H. inguinalis*, topotype (right), $\times 1$.

Diagnosis.—A *Hypopachus* with extremely globose body, very small head, smooth skin, outer metatarsal tubercles little compressed, and prominent inguinal spots; allied to *Hypopachus inguinalis*, from which it is distinguished by its very much shorter limbs, relatively smaller head, and less bold ventral coloration.

Description of type.—Body extremely globose, with short hind limbs and small head; snout scarcely longer than the diameter of the eye, with rounded canthi; interorbital space twice the width of the upper eyelid; fingers free, the second equal in length to the fourth, the third elongate; toes free, the vestige of web tubercle-like between the toes; subarticular tubercles well developed, three under the fourth toe; outer metatarsal tubercles prominent, rounded, the inner oval and slightly compressed, but without cutting edge; tarsometatarsal articulation falling short of the eye, reaching about to the axilla.

Skin smooth above and below; a transverse fold on the head behind the eyes, confluent with oblique folds from the posterior corners of the eyes to below the arms.

Color dark brown above, with a tinge of fawn; somewhat obscure black markings on the shoulders and anterior part of the dorsum; an oblique yellowish marking from the eye, with a small black spot; a well-developed light spot above the thighs, strongly outlined with black, and merging with the red and black mottling of the posterior face of the thighs; a narrow light line from tip of snout to above anus, connecting with one on the posterior faces of the legs; under surface brownish gray, with yellowish gray spots; a light line from the chin connects on the breast with oblique branches extending to the axillae.

Measurements.—Length from snout to anus 39.5; snout to transverse fold on head 5.5; width of head at ricti 11; hind limb from anus 50; tibia 15.9; foot from metatarsal tubercle 17.5; arm 21.5.

Notes on paratype.—A second specimen, No. 4642, comes from the same locality as the type; it agrees in general proportions and size with the description above; the ventral maculation is bolder.

Remarks.—I identified this form as *Hypopachus inguinalis* on my return from Honduras in 1923, and failed to note its distinctness from that form until topotypes of *inguinalis* were obtained in 1934.

***Hypopachus inguinalis* Cope.**

Hypopachus inguinalis Cope, Proc. Amer. Phil. Soc., 11, p. 166, 1869—Coban, Guatemala.

Four topotypes of this species are in Field Museum, taken April 15, 1934. These measure only about 25 mm. from snout to

vent, and are accordingly only two-thirds the size given by Parker (1934, p. 112). It is not impossible that there may be a larger form at lower altitudes in the extremely diversified terrain of "Verapaz." All specimens known from Coban seem to correspond with ours in size. There are two subarticular tubercles on the fourth toe, as in *barberi*; *globulosus* has three more prominent tubercles.

It seems likely that the Coban specimen, also "half-grown," referred by Parker to the west Mexican *oxyrhinus*, should be placed with *inguinalis*, or that some confusion of data has taken place in the specimens in the Naturhistorisches Museum in Vienna.

I take the occasion to make a trivial correction of a statement on page 112 of Parker's monograph; the specimen No. 49673 from Natal, Brazil, listed as "F.M.N.H." belongs to the California Academy of Sciences. It was on loan to Field Museum, and identified for me by Mr. Parker in 1932.

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